

servation and periodic tests should offer no difficulty. The inherent weakness of this type of circuiting would seem to be the strongest argument against the practice of pre-conditioning. The gain in time is negligible when weighed against the potential danger it might cause.

Proper instruction of the control machine operator will also lessen the possibility of any undesired condition being set up. An experienced, capable operator, upon receipt of an OS indication, will not attempt to operate a switch until his indication lights indicate that the train has cleared the approach and detector

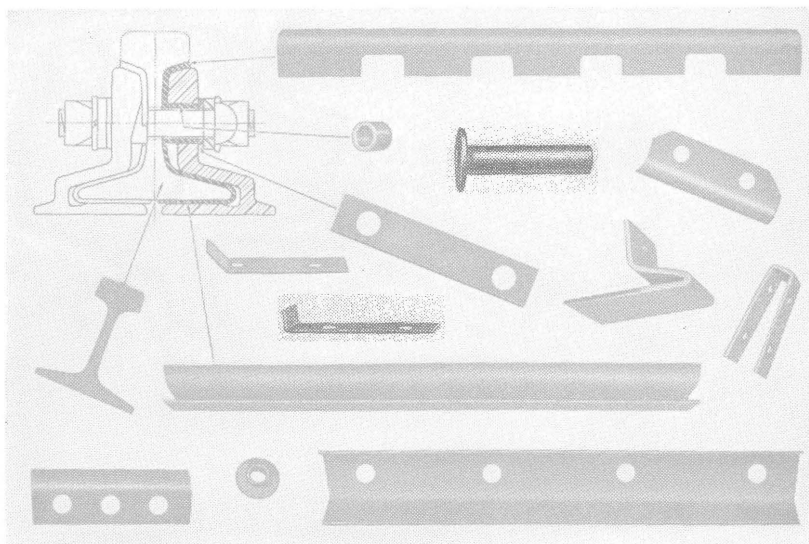
sections and is in the advance section. This, of course, would not apply where pre-conditioning of switches is provided.

## Aligning Searchlight Signal

*What methods do you use for properly aligning searchlight signals?*

### Use a Target

By O. W. DEWITT  
Superintendent of Construction  
General Railway Signal Company  
Rochester, N. Y.



One of the most successful methods we have used in territory signaled with SA compound lens, 5-watt lamp searchlight signals, is aligning the signal by means of a target. This target should consist of a 2-ft. diameter disk of  $\frac{3}{4}$ " plywood painted white on one side. A black cross is then painted on the white background, consisting of a 2-in. vertical stripe and a 2-in. horizontal stripe intersecting at the center of the disk and running from edge to edge.

The target is then mounted on a  $\frac{3}{4}$ " by 2" staff, long enough to place the target at a level of the locomotive engineer's eyes as he rides in the locomotive. The bottom end of the staff would rest on a cross-tie.

To use this target, a man would be stationed at a location at which it had been previously determined the engineer should be able to see the signal. He would hold the target upright, cross side facing toward the signal to be aligned. Through the use of the sighting device built into the signal case, locate the hair line cross exactly on the cross of the target. Set and securely fasten the adjusting screws and after this has been done, take a final look through the sighting device to make sure tightening the adjustment screws has not changed the alignment. A target of this type can be seen several thousand feet under normal weather conditions.

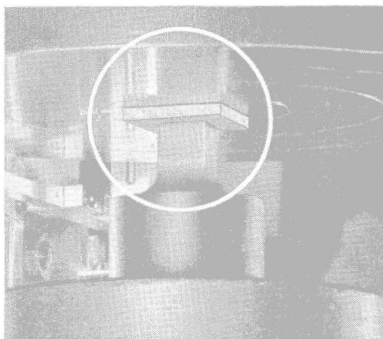
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## Training Program

*Do you have a training program for signal department employees?*

### On a Voluntary Basis

By V. O. SMELTZER  
Assistant Signal Engineer, System  
Atchison, Topeka & Santa Fe  
Topeka, Kan.

Training programs in the Santa Fe signal department are on a voluntary basis. The men are encouraged to improve their position and knowledge through study of correspondence school courses and through classes conducted by signal department personnel. Such classes are organized on construction gangs when the men express a desire for such training. Classes are conducted after working hours usually one night each week. Attendance is not compulsory, however, a surprising number of men avail themselves of these opportunities.

Usually the foreman of the gang is directly in charge of the classes under the guidance and with the